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Factsheet

ALEUTIAN DISEASE IN MINK

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INTRODUCTION

Aleutian disease (AD) was described in ranch-raised mink in 1956. The disease was so named because it was first found in mink with the Aleutian coat color gene. It has since been demonstrated that all color phases of mink are susceptible to the disease, however, marked differences in the average severity of the disease have been noted. The disease is recognized throughout the world and is presently the most important infectious disease affecting ranch-raised mink.

CAUSE

Aleutian disease is caused by a virus belonging to the family Parvoviridae.

TRANSMISSION

The virus is present in blood, bone marrow, spleen, feces, urine and saliva of infected mink. Infected mink can transmit the disease directly to other mink by contact or indirectly by contamination of feed, water, equipment or clothing with feces, urine or saliva. Since the virus is present in the blood of infected mink, fleas are likely capable of transmitting the virus to other animals. Transmission of infection from the dam to her kits does occur and is an important means of transmission.

DISEASE

Aleutian disease progresses slowly, taking up to one year before the mink manifests any symptoms. Throughout this time, the infected mink is a source of virus and can spread the disease to healthy mink. Characteristically, infected mink carrying the virus do not exhibit symptoms until several weeks or months after they become infected. Symptoms include loss of appetite, decreased activity, weight loss, tarry diarrhea and a rough coat. Once the symptoms become obvious, the death of the mink is certain.

A ranch harbouring AD tends to lose a number of mink following extremes in environmental temperature. Deaths due to secondary infections are common because AD reduces the mink's ability to fight other infectious agents. Once the disease has spread to a large proportion of mink on a ranch, kit production is drastically reduced due to "misses", abortions and early kit death. High kit mortality due to pneumonia is another less frequently recognized form of AD.

POSTMORTEM LESIONS

At postmortem the spleen is markedly enlarged. The liver and lymph nodes are often enlarged. The kidneys are enlarged, pale, yellow and mottled. The carcass is often tacky due to dehydration, resulting from kidney failure which is often the cause of death.

DIAGNOSIS

Diagnosis of AD in the late stages of the disease can be made based on the history, postmortem and microscopic findings.

Diagnosis of AD in live animals is made by a blood test, the counterimmunoelectrophoresis (CEP) test. This test can also be done on blood drawn from the heart of dead animals. The CEP test is specific for AD and is capable of detecting antibodies to AD (positive CEP) one week after experimentally infecting a mink. The CEP test requires sophisticated laboratory equipment to conduct the test and trained personnel to interpret the results. At present, the CEP test is the most practical mass screening method available for the identification of AD infected mink.

To test for AD, contact Veterinary Laboratory Services ([1] *see below) and obtain the testing kit which contains the necessary materials and instructions. A drop of blood obtained by clipping a toenail of a mink is sufficient for the CEP test. Since the test is rapid, as many as 500 samples/day can be tested ensuring rapid return of results.

TREATMENT

There is no specific treatment for Aleutian disease hence detection of infected mink is extremely important to prevent further spread of the disease.

1. *The CEP test is offered through a co-operative effort by the Ontario Veterinary College, University of Guelph and the Ontario Ministry of Agriculture and Food. To obtain test kits contact: Avian and Fur Bearing Pathology, Veterinary Laboratory Services, Box 3612, Guelph, Ontario. N1H 6R8 (519) 823–8800 X4530*
To schedule testing of mink contact: Fur Farm Specialist, Guelph Agriculture Centre, P.O. Box 1030, Guelph Ontario, N1H 6NI (519) 823–5700.

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PREVENTION AND CONTROL

Positive animals must be detected and eliminated thereby preventing spread of the virus and disease.

A screening test of a mink ranch is advised if that ranch has not been previously tested for AD. This involves testing a representative sample (1/10 to 1/4) of the breeding stock. It is important to sample every shed, color phase and group on the ranch. The results from such a sampling will indicate whether or not the ranch has an AD problem.

An ideal time to test proposed breeders is just prior to pelting season (October or November) since all positives would automatically become pelters. A retest of the negative mink kept as breeders just prior to breeding (February) will further minimize the chances of having AD infected stock since the virus would be passed onto the kits if these mink were bred. It is wise to test females in July, prior to separation of the kits. Some mink with very low levels of antibodies may undulate between positive and negative CEP test results. More frequent testing is recommended because of this, however, the economic feasibility must be considered.

Once a ranch has initiated a testing program, **NO** mink should be brought onto the ranch without previous testing and all new mink should be isolated from the other animals and retested after 30 to 60 days.

By strict culling of all mink that test positive for AD antibody by the CEP test, it has been demonstrated that the disease can be eliminated.

In addition to culling mink with antibodies to Aleutian disease, other management practices can influence the speed with which AD can be reduced. Pens and nest boxes which have held AD positive mink should be thoroughly cleaned and disinfected. Burn old bedding as well as fur adherent to the wire. Use of high pressure sprayers has been questioned since it may act to aerosolize and spread the virus. Individual waterers are recommended to prevent virus transmission in the water. Cleaning and disinfecting of waterers is important as is removal and disposal of uneaten feed. The practice of spreading feed should be discouraged. Manure should be removed regularly. Fly, bird and animal control is important to reduce transmission. Restrict traffic on the ranch. This may be aided by erecting a fence around the sheds.

If it is necessary to keep both negative and positive mink on the ranch, they should be kept in separate sheds if possible. When handling mink, separate gloves should be used for negative and positive groups. Work should always be done with negative mink first whether feeding, vaccinating, grading or separating kits.

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